

What is claimed is :

1. A control network system of an appliance comprising a controller and a plurality of appliances connected through a network;

wherein the appliances acquire necessary operation data of another appliance from the controller and utilize the operation data for controlling an efficient operation thereof;

each of said appliances comprising:

a means of maintaining an information of a transmitting condition of operation data thereof;

a means of controlling the operation data thereof by a predetermined program;

a means of controlling the information of the transmitting condition for receiving a demand for transmitting the information of the transmitting condition by said controller, and transmitting and setting the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition in response thereto; and

a means of controlling a transmission of the operation data for transmitting the operation data thereof controlled by said means of controlling the operation data in accordance with the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition;

said controller comprising:

a means of controlling the information of the transmitting condition for demanding a transmission of the data maintained by said means of maintaining the information of the transmitting condition from said means of controlling the information of the transmitting condition of each of said appliances, receiving the information of the transmitting condition transmitted from each of the appliances in response thereto, setting a control item in the information of the transmitting condition, and demanding a setting of the information of the transmitting condition of a control item when the information of the transmitting condition does not include the necessary control item; and

a means of acquiring the operation data for acquiring the operation data when the information of the transmitting condition of each of said appliances received by said means of controlling the information of the transmitting condition includes a transmission of the operation data of the appliance to said controller, and demanding a transmission of the operation data from an appliance to acquire the operation data when the information of the transmitting condition of each of said appliances received by said means of controlling the information of the transmitting condition does not include the transmission of the operation data of the appliance to said controller.

2. A control network system of an appliance comprising a plurality of appliances connected through a network;

wherein each of the appliances receives necessary operation data of another appliance through the network and controls an efficient operation thereof to be linked to the received operation data;

each of the appliances whose operation data are utilized comprising:

a means of maintaining an information of a transmitting condition of operation data thereof;

a means of controlling a transmission of the operation data for controlling the operation data thereof by a predetermined program, and transmitting the operation data thereof in accordance with the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition; and

a means of setting the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition in accordance with predetermined demand data for setting the information of the transmitting condition received through the network;

each of the appliances utilizing operation data of another appliance comprising:

a means of transmitting predetermined data for setting the information of the transmitting condition to the means of setting

the information of the transmitting condition of another related appliance;

a means of setting a reception of the operation data for receiving the operation data transmitted from another appliance in accordance with the demand data for setting the information of the transmitting condition, and setting a necessary storage of the operation data in a corresponding memory thereto; and

a means of controlling a linked operation for controlling an efficient operation thereof in accordance with the operation data of another appliance received and set by the means of setting the reception of the operation data.

3. A control network system of an appliance comprising a plurality of appliances which are connected through a network and are set so as to be linkedly operated by a wearable device for setting a linked operation;

wherein each of the appliances receives operation data of another appliance through the network and controls an efficient operation thereof to be linked to the received operation data;

each of said appliances comprising:

a means of maintaining an information of a transmitting condition of operation data thereof;

a means of controlling a transmission of the operation data for controlling the operation data thereof by a predetermined program, and transmitting the operation data thereof in

accordance with the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition;

a means of setting the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition in accordance with predetermined demand data for setting the information of the transmitting condition received through the network;

a means of setting a reception of the operation data for receiving the operation data transmitted from another appliance in accordance with the demand data for setting the information of the receiving condition received through the network, and setting a necessary storage of the operation data in a corresponding memory thereto; and

a means of controlling a linked operation for controlling an efficient operation thereof in accordance with the operation data of another appliance received and set by the means of setting the reception of the operation data;

said wearable device for setting a linked operation comprising:

a means of transmitting demand data for setting the information of the transmitting condition for transmitting predetermined demand data for setting the information of the transmitting condition to each of the appliances, and setting the information of

the transmitting condition in setting the network and introducing another appliance thereto; and

a means of transmitting demand data for setting the information of the receiving condition of the operation data for transmitting the demand data for setting the reception of the operation data to each of the appliances, and receiving and setting the operation data in setting the network and introducing another appliance thereto.

4. A control network system of an appliance comprising a plurality of appliances including an air conditioner and a sensor for a presence of a person, which are connected through a network;

wherein each of the appliances receives necessary operation data of another appliance through the network and controls an efficient operation thereof to be linked to the received operation data;

said sensor for a presence of a person comprising:

a means of maintaining an information of a transmitting condition of detection data for a presence of a person which are operation data thereof;

a means of controlling a transmission of the operation for controlling the detection data for the presence of the person by a predetermined program, and transmitting the controlled detection data for the presence of the person in accordance with the information of the transmitting condition maintained by said

means of maintaining the information of the transmitting condition; and

a means of setting the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition in accordance with predetermined demand data for setting the information of the transmitting condition received through the network;

said air conditioner comprising:

a means of transmitting predetermined demand data for setting the information of the transmitting condition to the means of setting the information of the transmitting condition of said sensor for the presence of the person;

a means of setting the reception of the operation data for receiving the detection data for the presence of the person transmitted from the sensor for the presence of the person in accordance with the demand data for setting the information of the transmitting condition, and setting a necessary storage of the detection data for the presence of the person in a corresponding memory thereto; and

a means of controlling a linked operation for controlling an operation of the air conditioner in accordance with the detection data for the presence of the person received and set by the means of setting the reception of the operation data.

5. A control network system of an appliance comprising a plurality of appliances including an air conditioner and an electric power sensor, which are connected through a network;

wherein each of the appliances receives necessary operation data of another appliance through the network and controls an efficient operation thereof to be linked to the received operation data;

said electric power sensor comprising:

a means of maintaining an information of a transmitting condition of detection data for an electric power which are operation data thereof;

a means of controlling a transmission of the operation for controlling the detection data for the electric power by a predetermined program, and transmitting the controlled detection data for the electric power in accordance with the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition; and

a means of setting the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition in accordance with predetermined demand data for setting the information of the transmitting condition received through the network;

said air conditioner comprising:

a means of transmitting predetermined demand data for setting the



information of the transmitting condition to the means of setting the information of the transmitting condition of said electric power sensor;

a means of setting a reception of the operation data for receiving the detection data for the electric power transmitted from the electric power sensor in accordance with the demand data for setting the information of the transmitting condition, and setting a necessary storage of the detection data for the electric power in a corresponding memory thereto; and

a means of controlling a linked operation for controlling an operation of the air conditioner in accordance with the detection data for the electric power of the electric power sensor received and set by the means of setting the reception of the operation data.

6. A control network system of an appliance comprising a plurality of household electric appliances including an air conditioner and a sensor for a presence of a person, which are connected through a network and are set so as to be linkedly operated by a wearable device for setting a linked operation;

wherein each of the appliances receives necessary operation data of another appliance through the network and controls an efficient operation thereof to be linked to the received operation data;

said sensor for a presence of a person comprising:

a means of maintaining an information of a transmitting condition of

detection data for a presence of a person which are operation data thereof;

a means of controlling a transmission of the operation for controlling the detection data for the presence of the person by a predetermined program, and transmitting the controlled operation data thereof in accordance with the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition; and

a means of setting the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition in accordance with predetermined demand data for setting the information of the transmitting condition received through the network;

said air conditioner comprising:

a means of setting a reception of the operation data for receiving the detection data for the presence of the person transmitted from the sensor for the presence of the person in accordance with the demand data for setting a method of the receiving condition received through the network, and setting a necessary storage of the detection data for the presence of the person in a corresponding memory thereto; and

a means of controlling a linked operation for controlling an operation of the air conditioner in accordance with the detection data for

the presence of the person received and set by the means of setting the reception of the operation data;

said wearable device for setting a linked operation comprising:

a means of transmitting demand data for setting the information of the transmitting condition for transmitting demand data for setting the information of the transmitting condition to the appliances including said sensor for the presence of the person, and setting the information of the transmitting condition in setting the network and introducing another appliance thereto; and

a means of transmitting demand data for setting the reception of the operation data for transmitting the information of the receiving condition of the operation data to the appliances including said air conditioner, and receiving and setting the operation data in setting the network and introducing another appliance thereto.

7. A control network system of an appliance comprising a plurality of household electric appliances including an air conditioner and an electric power sensor, which are connected through a network and are set so as to be linkedly operated by a wearable device for setting a linked operation;

wherein each of the appliances receives necessary operation data of another appliance through the network and controls an efficient operation thereof to be linked to the received operation data;

said electric power sensor comprising:

- a means of maintaining an information of a transmitting condition of detection data for an electric power which are operation data thereof;
- a means of controlling a transmission of the operation for controlling the detection data for the electric power by a predetermined program, and transmitting the controlled operation data thereof in accordance with the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition; and
- a means of setting the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition in accordance with predetermined demand data for setting the information of the transmitting condition received through the network;

said air conditioner comprising:

- a means of setting a reception of the operation data for receiving the detection data for the electric power transmitted from the electric power sensor in accordance with the demand data for setting a method of the receiving condition received through the network, and setting a necessary storage of the detection data for the electric power in a corresponding memory thereto; and
- a means of controlling a linked operation for controlling an operation

of the air conditioner in accordance with the detection data for the electric power received and set by the means of setting the reception of the operation data;

said wearable device for setting a linked operation comprising:

a means of transmitting demand data for setting the information of the transmitting condition for transmitting demand data for setting the information of the transmitting condition to the appliances including said electric power sensor, and setting the information of the transmitting condition in setting the network and introducing another appliance thereto; and

a means of transmitting demand data for setting the reception of the operation data for transmitting the information of the receiving condition of the operation data to the appliances including said air conditioner, and receiving and setting the operation data in setting the network and introducing another appliance thereto.

8. A control network system of an appliance comprising a controller and a plurality of appliances connected through a network;

wherein the appliances acquire necessary operation data of another appliance from the controller and utilize the operation data for controlling an efficient operation thereof;

each of said appliances comprising:

a means of maintaining an information of a transmitting condition of operation data including at least one of an electric power

consumption and an electric current consumption thereof;

a means of controlling the operation data including at least one of the electric power consumption and the electric current consumption thereof by a predetermined program;

a means of controlling the information of the transmitting condition for receiving a demand for transmitting the information of the transmitting condition including at least one of the electric power consumption and the electric current consumption by said controller, and transmitting and setting the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition in response thereto;

a means of controlling a transmission of the operation data for transmitting the operation data including at least one of the electric power consumption and the electric current consumption thereof controlled by said means of controlling the operation data in accordance with the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition; and

a means of controlling the electric power consumption for controlling at least one of the electric power consumption and the electric current consumption in accordance with a control by said controller;

said controller comprising:

a means of controlling the information of the transmitting condition for demanding a transmission of the data maintained by said means of maintaining the information of the transmitting condition from said means of controlling the information of the transmitting condition of each of said appliances, receiving the information of the transmitting condition transmitted from each of the appliances in response thereto, setting a control item in the information of the transmitting condition, and demanding a setting of the information of the transmitting condition of a control item when the information of the transmitting condition does not include the necessary control item including at least one of the electric power consumption and the electric current consumption;

a means of acquiring the operation data for acquiring the operation data when the information of the transmitting condition of each of said appliances received by said means of controlling the information of the transmitting condition includes the operation data including at least one of the electric power consumption and the electric current consumption of the appliance, and demanding a transmission of the operation data from an appliance to acquire the operation data when the information of the transmitting condition of each of said appliances received by said means of controlling the information of the transmitting condition does not

include the operation data including at least one of the electric power consumption and the electric current consumption of the appliance; and

a means of controlling a total electric power consumption for controlling so that at least one of a total electric power consumption and a total electric current consumption of the plurality of appliances connected through the network does not surpass a predetermined value in accordance with the operation data acquired by said means of acquiring the operation data.

9. A control network system of an appliance comprising a plurality of appliances which are connected through a network and are set so as to be linkedly operated by a wearable device for setting a linked operation;

wherein each of the appliances receives operation data of another appliance through the network and controls an efficient operation thereof to be linked to the received operation data;

each of said appliances comprising:

a means of maintaining an information of a transmitting condition of operation data including at least one of an electric power consumption and an electric current consumption thereof;

a means of controlling a transmission of the operation data for controlling the operation data including at least one of the electric power consumption and the electric current consumption thereof by a predetermined program, and transmitting the



operation data thereof in accordance with the information of the transmitting condition maintained by said means of maintaining the information of the transmitting condition;

a means of setting the information of the transmitting condition including at least one of the electric power consumption and the electric current consumption maintained by said means of maintaining the information of the transmitting condition in accordance with predetermined demand data for setting the information of the transmitting condition received through the network;

a means of setting a reception of the operation data for receiving the operation data including at least one of the electric power consumption and the electric current consumption transmitted from another appliance in accordance with the demand data for setting the information of the receiving condition received through the network, and setting a necessary storage of the operation data in a corresponding memory thereto; and

a means of controlling a linked operation for controlling an efficient operation thereof in accordance with the operation data of another appliance received and set by the means of setting the reception of the operation data;

said wearable device for setting a linked operation comprising:

a means of transmitting demand data for setting the information of

the transmitting condition for transmitting predetermined demand data for setting the information of the transmitting condition including at least one of the electric power consumption and the electric current consumption to each of the appliances, and setting the information of the transmitting condition in setting the network and introducing another appliance thereto; and

a means of transmitting demand data for setting the information of the receiving condition of the operation data for transmitting demand data for setting the reception of the operation data including at least one of the electric power consumption and the electric current consumption to each of the appliances, and receiving and setting the operation data in setting the network and introducing another appliance thereto.

10. A control network system of an appliance according to any one of Claims 1 to 9,

wherein an operation of at least one of said plurality of appliances connected through the network can be directly controlled by a user with a common remote controller; and said controller or said means of controlling a linked operation is provided for said remote controller.

11. A control network system of an appliance according to Claim 10, wherein said remote controller comprises a means of displaying a warning

SUB A17

of a disorder when the disorder is caused such that at least one of a total electric power consumption and a total electric current of the plurality of appliances surpasses a limited value due to an operation of another appliance by the user.

12. A control network system of an appliance according to any one of Claims 1 to 9, wherein a remote controller of at least one of said plurality of appliances connected through the network comprises a means of displaying a warning of a disorder when the disorder is caused such that at least one of a total electric power consumption and a electric current of the plurality of appliances surpasses a limited value due to an operation of ~~another appliance by a user.~~

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